

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :
Pierre FAGARD : Confirmation No. 7671
U.S. Patent Application No. 10/535,673 : Group Art Unit: 2629
Filed: May 12, 2006 : Examiner: Yuk CHOW

For: DISPLAY DEVICE DEDICATED TO PROXIMITY DETECTION

PRE APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop **AF**
Commissioner for Patents
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Sir:

It is respectfully submitted that the Examiner has erred in rejecting claims 1-17 under 35 USC 103(a) as being unpatentable over Caldwell et al. (US Patent 5,572,205) in view of Troxell et al. (US 2004/0080486 A1). Reconsideration is respectfully requested.

In Caldwell no electrical signal controls the properties of layer 23. This layer is exemplified as being an optical correction material such as a transparent acrylic material. In separate telephonic conversations with the Examiner and his supervisor (Examiner Amare Mengistu), the position that the Examiners are entitled to interpret the claim language as broadly as possible, was advanced. This, it is respectfully submitted, is not correct.

MPEP 2111 clearly states that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification."

The Examiners both indicated a lack of understanding of what "electro-optical properties" means and advanced the position that the claims need to explain what this means exactly. Applicant submits that these are untenable excuses to support a position that a layer of plastic which exhibits no response to the application of an electric field meets the claimed requirements when "broadly" interpreted.

More specifically, in the final rejection dated May 28, 2009, it was stated on page 6 that:

Regarding claim 1, applicant argues that Caldwell does not disclose a display device which uses a layer of material exhibiting electro-optical properties able to transmit/block luminous radiations under the effect of electrical control signal. However, examiner respectfully disagrees, since claim 1 does not indicate **the specific of the electro-optical properties**, therefore Caldwell's disclosure Fig. 2(23), **an optical correction material** which eliminating distortions and enhances the optical illumination (see Caldwell Col 4 lines 15-54), **is sufficient for teaching this limitation.** (Emphasis added)

In other words, just what the "electro-optical properties" were is not understood whereby the term "electro-optical" was apparently reduced to just "optical." Nevertheless, the Examiner then had no problem in understanding just what optical-properties were.

Merriam-Webster's Online Dictionary defines electro-optical as: relating to or being a change in the refractive index of a material due to an electric field b : using or being a material that **exhibits electro-optical properties.**

From Wikipedia, the free encyclopedia: electro-optics is a branch of technology involving components, devices and systems which operate by modification of the optical properties of a material by an electric field. Thus it concerns the interaction between the electromagnetic (optical) and the electrical (electronic) states of materials.

The above is as broad as is it is proper to interpret this term. To broaden beyond this is to improperly change the meaning of term which is exactly what is observed in this rejection. There is nothing broader than a dictionary definition.

Further, electro-optical is a term which has an art accepted meaning. A simple Google™ search gleans 2,440,000 hits for this term.

MPEP 2106 indicates that:

*>USPTO< personnel must always remember to use the perspective of one of ordinary skill in the art. Claims and disclosures are not to be evaluated in a vacuum. If elements of an invention are well known in the art, the applicant does not have to provide a disclosure that describes those elements.

During the above mentioned telephonic conversations, it was advanced that limitations appearing in the specification but not recited in the claim should not be read into the claim. It was submitted that this was not a problem. *The electro-optical limitation was already in the claims* and could not be ignored particularly light of the fact that the claims are acknowledged as being clear and distinct – note the absence of any § 112 issues. Page 4, lines 15-19 of the instant disclosure clearly provide a clear meaning of the term “electro-optical properties” along with an example of a material which meets the requirements.

Just what was being asserted by the “limitations appearing in the specification but not recited in the claim should not be read into the claim” in this instance is not clear, and cannot be deemed a tenable basis for rejection.

Furthermore, in Caldwell the electrodes 16a and 16b are not opposite. They are disposed on the same face of the flexible carrier 24. This second error is linked to the fact that the reference 20 of Caldwell does not receive any electrical signal. The function of 20 is to couple electrode 16a and 16b when an operator touches the reference 20. Reference 20 has no electrical connection. As such the Examiner cannot assert that element 20 is an electrode.

The rejection is therefore untenable for at least these reasons.

The Applicant again takes the position that contrary to the position taken in this rejection, Caldwell does not disclose a display device which uses a layer of material exhibiting electro-optical properties able to transmit/block luminous radiations under the effect of an electrical control signal, and reiterates the arguments previously presented.

The claimed material comprises, merely by way of example, liquid crystal. In other words, in the claimed invention the pictogram can be either displayed or not displayed. In Caldwell, the layer 23 only has filtering properties such as refraction or color filtering properties and is disclosed as being an “optical correction material” – as such it cannot meet the claimed requirements - see column 4 lines 14-42 wherein it is set forth that:

In order to apply the conductive elements 16a, 16b of each touch pad to surface 18 of substrate 12, the conductive elements 16a, 16b are mounted to a flexible carrier 24. Carrier 24 is adhered to surface 18 by an adhesive layer 26. Additionally, indicators 22 are mounted to flexible carrier 24 in order to locate the indicators in a position where they may be viewed through

substrate 12. In order to correct optical distortion created by the presence of the modulations, or dimples, on surface 18, an optical correction material 23 is positioned between indicator 22 and modulated surface 18. Optical correction material 23 has an index of refraction that is compatible with that of substrate 12 and fills in the voids between the dimples of surface 18, as well as the space between surface 18 and indicator 22. In this manner, light emitted by indicator 22 passes through substrate 12 without substantial distortion.

Operation of optical correction material 23 may be understood by comparing an indicator 22' in FIG. 6 with an indicator 22" in FIG. 7. Indicator 22 illustrates the optical effect of modulated surface 18. The different incidence angles of light rays caused by the dimples creates a "fish-eye" effect whereby an initially homogeneous indication takes on the appearance of numerous circles and the indication has serrated edges. In contrast, indicator 22" illustrates the corrective effect of optical correction material 23 in eliminating distortions to the homogeneous appearance of the indicator, including retaining the crisp edges of the initial indication.

Optical correction material, in the illustrated embodiment, is a transparent acrylic material. While optical correction material 23 is clear, it may be also dyed in order to modify the color of indicators 22. A clear acrylic material in transfer adhesive form is commercially available from the 3M Company, Minneapolis, Minn., and marketed under Type 300MP. In a most preferred embodiment, a clear acrylic adhesive, such as 3M Type 300MP, is applied to the entire interface between surface 18 and flexible carrier 24 at a thickness of 0.013 inches in order to affix the flexible carrier to the substrate and to provide optical correction material for indicators 22. (Emphasis added)

Thus, the rejection fails to identify at least one of the claimed elements. That is to say, the layer of material exhibiting electro-optical properties. The rejection is therefore rendered untenable for at least this reason.

Further, as will be appreciated, the properties of the material 23 disclosed in Caldwell, cannot be modified under the control of a control signal. Furthermore, in Caldwell, the display function, operated by indicator 22, is situated in a zone distinct from the touch control device operates by electrodes 16a and 16b. In contrast, the claimed subject matter is such that a corresponding electrode (the claimed second electrode) is used for both functions: 1) display function and 2) touch sensitive function.

The rejection as discussed above, is submitted as being untenable and in need of withdrawal which is respectfully solicited.

A key issue is that "a material exhibiting optical properties" has obviously been understood for the sake of rejection but "a material exhibiting electro-optical properties" has not. The specification supports and exemplifies "a material exhibiting electro-optical properties." This moots the position taken for rejection "limitations appearing in the specification but not recited in the claim should not be read into the claim." It cannot be seen that there is any proper defense for the above.

Respectfully submitted,
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